

1 [0058]

ABSTRACT OF THE DISCLOSURE

2 [0059] We have developed a gas distribution showerhead assembly, for use in a
3 semiconductor processing chamber, which can be easily cleaned, with minimal chamber
4 downtime. The gas distribution showerhead assembly includes an electrode having openings
5 therethrough, and a gas distribution plate which includes a plurality of through-holes for
6 delivering processing gases into the semiconductor processing chamber. The gas distribution
7 plate is bonded to a first, lower major surface of the electrode. A removable insert which fits
8 into an opening in the electrode through which gas flows. Spacing between surfaces of the
9 removable insert and surfaces of the electrode is adequate to permit gas flow, but inadequate for
10 plasma ignition within the opening. The removable insert can be easily removed during
11 cleaning of the gas distribution showerhead, permitting the holes in the gas distribution plate
12 to be easily accessed from both sides of the gas distribution plate.